

```
-----MAAAIASSLIRQKRQARESNS-DRVSASKRRSSPSKDG-R 38
FHF-1
FGF-10
                -----MAAAIASGLIRQKRQAREQHW-DRPSASRRRSSPSKN--R 37------MAAAIASSLIRQKRQARER---EKSNACKCVSSPSKG--K 35
FHF-4
FHF-2
FHF-3
                -----MAALASSLIRQKREVREPGG-SRPVSAQRRVCP-RGT-K 36
                 -----MS-GPGTAAVALLPAVLLALL-APWAGRGGAAAPTAPN-G 37
FGF4 HUMAN
FGF6 HUMAN
                MALGQKLFITMSRGAGRLQGTLWALVFLGIL-VGMVVP--SPAGTRAN-N 46
FGF2 HUMAN
FGF1 HUMAN
                ------MWKWILTHCASAFPHLPGCCC-CCFLLLFLVSSVPVTC-Q 38
-------MHKWILTWILPTLLYR-S-----CFHIICLVGTISLAC-N 33
------MY-SAPSACTCLCLHFLLCF-QVQ------VLVAEE-N 30
KGF-2
FGF7 HUMAN
ZGI HUZFGF
                -----MG-SPRSALSCLLLHLLVLCL-QAQEGPGRGPALGREL-A 37
FGF8 HUMAN
                -----MSLSFLLLLFFSHLILSAWAHGEKRLAPKGQPGPAATDRN 40
FGF5 HUMAN
FGF9 HUMAN
                -----MAPLGEVGNYFGVQDAVPFGNVPVLP--VDSPVLLS-D 35
                -----G----WPAAGPGA 23
FGF3<sup>-</sup>HUMAN
                SLCERHV---LGVFSKVRFCSGR------KRPVRRRPEPQLKGIVT 75
FHF-1
FGF-10
FHF-4
                GLCNGNL---VDIFSKVRIFGLK------KRRLRRQ-DPQLKGIVT 73
                TSCDKNK---LNVFSRVKLFGSK------KRRRRRP-EPQLKGIVT 71
FHF-2
                 SLCQKQL---LILLSKVRLCGGRP-----ARPDRGP-EPQLKGIVT 73
FHF-3
FGF4 HUMAN
                 TLEAELERR-WESLVALSLARLPVAAQPKE-AAVQSGAGDYLLG-IKRLR 84
FGF6 HUMAN
                 TLLDS--RG-WGTLLSRSRAGL---AG--E-IAGVNWESGYLVG-IKRQR 86
                 ------MAAGSITTLPALPE------DGGSGAFPPGHFKDPK 30-------KFN---LPPGNYKKPK 27
FGF2 HUMAN
FGF1 HUMAN
KGF-2
                 ALGQDMVSP-EATNSSSSSFSSPSSAG-----RHVRSYNHLQG-DVRWR 80
                DMTPEQM----ATNVNCS---SPE------QTRARDDVSRKQLRLY 55
SLFRAGR---EPQGVSQQHVRE------QSLVTDQLSRRLIRTY 72
FGF7 HUMAN
ZGI HUZFGF
FGF8 HUMAN
                 PIGSSSRQSSSSAMSSSSASSSPAASLGSQGSGLEQSSFQWSPS-GRRTG 89
FGF5 HUMAN
                FGF9 HUMAN
FGF3 HUMAN
FHF-1
                 RLFSQQ--GYFLQMHPDGTIDGTKDENSDYTLFNLIPVGLR-VVAIQGVK 122
FGF-10
                 RLFSQQ--GYFLQMHPDGTIDGTKDENSDYTLFNLIPVGLR-VVAIQGVK 60
FHF-4
                 RLYCRQ--GYYLOMHPDGALDGTKDDSTNSTLFNLIPVGLR-VVAIOGVK 120
FHF-2
                 KLYSRQ--GYHLQLQADGTIDGTKDEDSTYTLFNLIPVGLR-VVAIQGVQ 118
FHF-3
                 KLFCRQ--GFYLQANPDGSIQGTPEDTSSFTHFNLIPVGLR-VVTIQSAK 120
FGF4 HUMAN
                 RLYCNVGIGFHLQALPDGRIGGAHADT-RDSLLELSPVERG-VVSIFGVA 132
                 RLYCNVGIGFHLQVLPDGRISGTHEEN-PYSLLEISTVERG-VVSLFGVR 134
FGF6 HUMAN
FGF2_HUMAN
FGF1_HUMAN
KGF-2
                 RLYCKNG-GFFLRIHPDGRVDGVREKSDPHIKLQLQAEERG-VVSIKGVC 78
                 LLYCSNG-GHFLRILPDGTVDGTRDRSDQHIQLQLSAESVG-EVYIKSTE 75
                 KLFSFT--KYFLKIEKNGKVSGTKKENCPYSILEITSVEIG-VVAVKAIN 127
FGF7 HUMAN
                 RLFCRT--QWYLRIDKRGKVKGTQEMKNNYNIMEIRTVAVG-IVAIKGVE 114
ZGI HUZFGF
                 QLYSRTS-GKHIQVLG-RRISARGEDGDKYAQLLVETDTFGSQVRIKGKE 103
FGF8 HUMAN
                 QLYSRTS-GKHVQVLANKRINAMAEDGDPFAKLIVETDTFGSRVRVRGAE 121
FGF5 HUMAN
                 SLYCRVGIGFHLQIYPDGKVNGSHEAN-MLSVLEIFAVSQG-IVGIRGVF 137
FGF9 HUMAN
                 QLYCRT--GFHLEIFPNGTIQGTRKDHSRFGILEFISIAVG-LVSIRGVD 111
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3

FGF3 HUMAN

Fig. 1

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KLYCAT--KYHLQLHPSGRVNGSLENS-AYSILEITAVEVG-IVAIRGLF 92

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FHF-1
              ASLYVAMNGEGYLYSSDV-FTPECKFKESVFENYYVIYSSTLYROOESG- 170
FGF-10
              ASLYVAMNGEGYLYSSDV-FTPECKFKESVFENYYVIYSSTLYRQQESG- 108
FHF-4
              TGLYIAMNGEGYLYPSEL-FTPECKFKESVFENYYVIYSSMLYRQQESG- 168
FHF-2
              TKLYLAMNSEGYLYTSEL-FTPECKFKESVFENYYVTYSSMIYROOOSG- 166
              LGHYMAMNAEGLLYSSPH-FTAECRFKECVFENYYVLYASALYRQRRSG- 168
FHF-3
              SRFFVAMSSKGKLYGSPF-FTDECTFKEILLPNNYNAYESYKYPG---- 176
FGF4 HUMAN
FGF6 HUMAN
              SALFVAMNSKGRLYATPS-FQEECKFRETLLPNNYNAYESDLYQG---- 178
FGF2 HUMAN
              ANRYLAMKEDGRLLASKC-VTDECFFFERLESNNYNTYRSRKYTS---- 122
FGF1 HUMAN
              TGQYLAMDTDGLLYGSQT-PNEECLFLERLEENHYNTYISKKHAEK--N- 121
KGF-2
              SNYYLAMNKKGKLYGSKE-FNNDCKLKERIEENGYNTYASFNWOHN--G- 173
              SEFYLAMNKEGKLYAKKE-CNEDCNFKELILENHYNTYASAKWTHN--G- 160
TEFYLCMNRKGKLVGKPDGTSKECVFIEKVLENNYTALMSAKYSG----- 148
FGF7 HUMAN
ZGI HUZFGF
FGF8 HUMAN
              TGLYICMNKKGKLIAKSNGKGKDCVFTEIVLENNYTALQNAKYEG---- 166
FGF5 HUMAN
              SNKFLAMSKKGKLHASAK-FTDDCKFRERFQENSYNTYASAIHRTEKTG- 185
FGF9 HUMAN
              SGLYLGMNEKGELYGSEK-LTQECVFREQFEENWYNTYSSNLYKHVDTG- 159
              SGRYLAMNKRGRLYASEH-YSAECEFVERIHELGYNTYASRLYRTVSSTP 141
FGF3THUMAN
                 :: *. * * . : * : * .
FHF-1
              -----RAWFLGLNKEGQIMKG--NRVKKTKPSSHFVPKPIEVCMYR. 209
FGF-10
              -----RAWFLGLNKEGQIMKG--NRVEKTKPSSHFVPKPIEVCMYR 147
FHF-4
              -----RAWFLGLNKEGQAMKG--NRVKKTKPAAHFLPKPLEVAMYR 207
              -----RGWYLGLNKEGEIMKG--NHVKKNKPAAHFLPKPLKVAMYK 205
FHF-2
              -----RAWYLGLDKEGQVMKG--NRVKKTKAAAHFLPKLLEVAMYQ 207
FHF-3
              ----- MFIALSKNGKTKKG--NRVSPTMKVTHFLPRL----- 206
FGF4 HUMAN
              FGF6 HUMAN
FGF2 HUMAN
FGF1 HUMAN
              -----RQMYVALNGKGAPRRG--QKTRRKNTSAHFLPMVVHS----
KGF-2
              ------GEMFVALNQKGIPVRG--KKTKKEQKTAHFLPMAIT---- 194
FGF7 HUMAN
              -----WYVGFTKKGRPRKG--PKTRENQQDVHFMKRYPKGQPEL 185
ZGI HUZFGF
              -----WYMAFTRKGRPRKG--SKTRQHQREVHFMKRLPRGHHTT 203
FGF8 HUMAN
              -----REWYVALNKRGKAKRGCSPRVKPQHISTHFLPRFKQSEQ-P 225
FGF5 HUMAN
FGF9 HUMAN
              -----RRYYVALNKDGTPREG--TRTKRHQKFTHFLPRPVDPDKVP 198
FGF3 HUMAN
              GARROPSAERLWYVSVNGKGRPRRG--FKTRRTQKSSLFLPRVLDHRDHE 189
                                    *
                          ::..
FHF-1
              EPSLHEIGEKQ----GRS--RKSSGTPTMNGGKVVNQDST----- 243
FGF-10
              EPSLHEIGENK----GVO--GKFWTPP----- 168
FHF-4
              EPSLHDVGETVPKP-GVTPSKSTSASAIMNGGKPVNKSKTT----- 247
              EPSLHDLTEFSRSG-SGTPTKSRSVSGVLNGGKSMSHNEST----- 245
EPSLHSVPEAS-----P--SSPPAP----- 225
FHF-2
FHF-3
              ______
FGF4 HUMAN
                 -----
FGF6 HUMAN
               -----
FGF2_HUMAN
FGF1 HUMAN
KGF-2
FGF7 HUMAN
              QKPFKYTTVTK-----RSRR--IRPTHPA----- 207
ZGI HUZFGF
FGF8 HUMAN
              EQSLRFEFLNYPPF-TRSLRGSQRTWAPEPR----- 233
FGF5 HUMAN
              ELSFTVTVPEKKNP-PSPIKSKIPLSAPRKNTNSVKYRLKFRFG----- 268
FGF9 HUMAN
              ELYKDILSOS-----
                                                              208
              MVRQLQSGLPRPPGKGVQPRRRRQKQSPDNLEPSHVQASRLGSQLEASAH 239
FGF3 HUMAN
```

Fig. 2

16	0.38	09.0	0.35	0.32	0.43	0.36	0.42	0.38	0.42	0.43	0.41	0.42	0.32	0.31	0.38	1.00
15	0.35	98.0	0.35	0.28	0.40	0.36	0.67	0.34	0.62	0.32	0.58	0.62	0.34	08.0	1.00	
14	0.40	68.0	0.46	0.31	0.43	0.32	0.37	0.36	0.37	0.37	0.38	0.33	0.47	1.00		
13	0.42	28.0	0.41	0.30	0.44	0.34	0.34	0.36	0.34	0.40	98.0	0.36	1.00	,		
12	0.40	28.0	0.37	0.30	0.42	0.34	0.81	0.37	0.72	0.35	0.68	1.00				
11	0.39	0.39	0.35	0.28	0.43	0.32	97.0	0.34	99.0	0.32	1.00					8
10	0.41	0.44	0.38	0.31	0.39	0.31	0.33	0.54	0.33	1.00				(1)		
6	0.37	0.38	0.34	0.26	0.39	0.33	0.98	0.34	1.00							
8	0.38	0.33	0.36	0.24	0.43	0.31	0.34	1.00	1							
7	0.36	0.38	0.33	0.26	0.39	0.33	1.00									
9	0.33	0.35	0.34	0.53	0.35	1.00								建		
5	0.46	0.41	0.42	0.34	1.00	18-1			, v#.				Š.			
4	0.29	0.34	0.31	1.00		- 13 13-11 14-1			24							
3	0.43	0.38	1.00			*. *. *.									i di E	
2	0.39	1.00														
-	1.00															
	П	2	က	4	2	9	7	ω	6	10	11	12	13	14	15	16

Fig. 3